Rule CIC264: Balance between contention winners and contention losers may be inappropriate for an APPC modegroup

Finding: CPExpert believes that the balance between contention winners and contention losers may need to be adjusted for an APPC (LU6.2) modegroup.

Impact: This finding should normally have a MEDIUM IMPACT on the performance of the CICS region. However, the finding could have a HIGH IMPACT on the performance of individual transactions if these transactions are queued for lengthy intervals.

Logic flow: This is a basic finding, based upon an analysis of the CICS statistics. Please refer to Rule CIC260 for a discussion of basic ISC/IRC concepts.

Discussion: Transactions can acquire the use of a specific session in an APPC (LU6.2) environment by using the ALLOCATE command to request a specific modegroup. Conversations can take place between the two CICS regions or systems only after the session has been allocated. Once established, the session normally exists for a long time and can be used by many different transactions. The session normally is terminated by a FREE command.

A session must be available in the specified modegroup in order to be allocated in response to the ALLOCATE command. If a session is not available, CICS will normally queue the allocate request (and suspend the transaction) until a session is made available.

CICS will attempt to make a session available if the ALLOCATE request cannot be honored. If there are no contention winner sessions available in the modegroup, CICS may issue a bid for an available contention loser session in the modegroup. If the bid is honored, the contention loser session is treated as a contention winner session and the session is allocated.

Bidding for contention loser sessions requires unnecessary overhead and the process delays transactions. The overhead can be eliminated by specifying additional contention winner sessions. This can be done by specifying more sessions for the modegroup or by changing the balance between contention winners and contention losers in the modegroup.

CPExpert detects that there is an imbalance between APPC (LU6.2) contention winners and contention losers assigned to a modegroup by

analyzing Peak Bids in Progress (A20EBHWM) for each modegroup. Rule CIC264 is produced if CPExpert detects a problem with the number of sessions defined for a modegroup.

Suggestion: CPExpert suggests that you consider making more contention winner sessions available in the modegroup identified by Rule CIC164. Making more contention winner sessions available should eliminate the need for CICS to bid for contention losers sessions to satisfy ALLOCATE requests for the modegroup.

More contention winner sessions can be made available by increasing the number of sessions on the MAXIMUM keyword of the DEFINE SESSIONS definition or by increasing the number of sessions defined as contention winners (the second parameter of the MAXIMUM keyword). Please refer to Rule CIC160 for a discussion of the implications of defining more sessions.

You must, of course, maintain consistency between the front-end and back-end definitions.

Reference: *CICS/ESA Version 3.1.1 Performance* Guide: pages 76-84.

CICS/ESA Version 3.2.1 Performance Guide: pages 294-301.

CICS/ESA Version 3.3.1 Performance Guide: page 57 and pages 313-320.

CICS/ESA Version 4.1.1 Performance Guide: Section 2.2.23 and Appendix A.1.13.

CICS/TS Release 1.1 Performance Guide: Section 2.2.23 and Appendix 1.1.14.

CICS/TS Release 1.2 Performance Guide: Section 2.2.24 and Appendix 1.1.14.

CICS/TS Release 1.3 Performance Guide: Section 2.2.25 and Appendix 1.1.15.

CICS/TS for z/OS Release 2.1 *Performance Guide*: Chapter 5 (ISC/IRC system and mode entry statistics) and Appendix A (Table 64).

CICS/TS for z/OS Release 2.2 *Performance Guide*: Section 2.2.27 (Interpreting ISC/IRC system and mode entry statistics) and Appendix 1.1.12.

